

WHAT IS CLAIMED IS:

1. A method for marine navigation, comprising:  
5 identifying a potential waypoint; and  
performing a marine route calculation algorithm to analyze a course between a first location and the potential waypoint in view of preselected conditions.
2. The method of claim 1, wherein performing the marine route calculation algorithm includes analyzing cartographic data that include preselected conditions  
10 between the first location and the potential waypoint with a preference for avoiding preselected conditions.
3. The method of claim 2, wherein performing the marine route calculation algorithm further includes re-routing the course to avoid the preselected conditions when  
15 the marine route calculation algorithm identifies one or more preselected conditions between the first location and the potential waypoint.
4. The method of claim 3, wherein re-routing the course calculated further includes identifying one or more non-user waypoints between the first location and the potential  
20 waypoint.
5. The method of claim 2, further including determining the first location on the course based on a signal from a global positioning system (GPS); and  
analyzing cartographic data for a predetermined area around the first location for  
25 preselected conditions.
6. The method of claim 5, further including providing an alert signal when the analyzed cartographic data for the predetermined area around the first location includes preselected conditions.

7. The method of claim 2, further including providing an alert signal when the analyzed cartographic data between the first location and the potential waypoint includes preselected conditions.

5 8. The method of claim 7, wherein providing the alert signal includes emitting an audio alert.

9. The method of claim 7, wherein providing the alert signal includes displaying a visual alert.

10 10. The method of claim 1, further including receiving preselected conditions selected from the group of land, water depth, rock(s), sandbars, shelves, tide condition, tidal data, wind conditions, weather conditions, ice, above-water obstacles, underwater obstacles, type of water bottom, and prohibited areas.

15 11. A method for marine navigation, comprising:  
identifying a potential waypoint;  
analyzing cartographic data between a first location and the potential waypoint for preselected conditions; and  
20 providing an alert signal when cartographic data between the first location and the potential waypoint indicate preselected conditions.

25 12. The method of claim 11, wherein performing the marine route calculation algorithm further includes re-routing the course to avoid the preselected conditions when the marine route calculation algorithm identifies one or more preselected conditions between the first location and the potential waypoint.

30 13. The method of claim 12, wherein re-routing the course further includes identifying one or more non-user waypoints between the first location and the potential waypoint.

14. The method of claim 11, further including providing an alert signal when the analyzed cartographic data between the first location and the potential waypoint includes preselected conditions.
- 5 15. The method of claim 11, further including determining the first location on the course based on a signal from a global positioning system (GPS); and analyzing cartographic data for a predetermined area around the first location for preselected conditions.
- 10 16. The method of claim 15, further including providing an alert signal when the analyzed cartographic data for the predetermined area around the first location includes preselected conditions.
- 15 17. The method of claim 11, wherein analyzing cartographic data further comprises acquiring cartographic data from a global positioning system (GPS).
18. The method of claim 11, further including receiving preselected conditions selected from the group of land, water depth, rock(s), sandbars, shelves, tide condition, tidal data, wind conditions, weather conditions, ice, above-water obstacles, underwater obstacles, type of water bottom, and prohibited areas.
- 20 19. A method for marine navigation, comprising:
  - identifying a user defined graphical filter area on a display;
  - analyzing cartographic data within the user defined graphical filter area for preselected conditions; and
  - providing an alert signal when cartographic data within the user defined graphical filter area indicate preselected conditions.
- 25 20. The method of claim 19, wherein identifying the user defined graphical filter area includes repositioning the user defined graphical filter area.

21. The method of claim 19, wherein analyzing cartographic data further comprises acquiring cartographic data from a global positioning system (GPS).
22. The method of claim 19, further including receiving preselected conditions  
5 selected from the group of land, water depth, rock(s), sandbars, shelves, tide condition, tidal data, wind conditions, weather conditions, ice, above-water obstacles, underwater obstacles, type of water bottom, and prohibited areas.
23. A computer readable medium having a set of computer readable instructions, the  
10 set of computer readable instructions comprising instructions for:
  - identifying a potential waypoint upon a first event; and
  - performing a marine route calculation algorithm to analyze a course between a first location and the potential waypoint in view of preselected conditions.
- 15 24. The computer readable medium of claim 23, wherein performing the marine route calculation algorithm includes analyzing cartographic data between the first location and the potential waypoint to avoid preselected conditions.
25. The computer readable medium of claim 24, wherein performing the marine route calculation algorithm further includes re-routing the course to avoid the preselected conditions when the marine route calculation algorithm identifies one or more preselected conditions between the first location and the potential waypoint.
26. The computer readable medium of claim 25, wherein re-routing the course further  
25 includes identifying one or more non-user waypoints between the first location and the potential waypoint.
27. The computer readable medium of claim 23, further including determining the first location on the course based on a signal from a global positioning system (GPS); and  
30 analyzing cartographic data for a predetermined area around the first location for preselected conditions.

28. The computer readable medium of claim 27, further including providing an alert signal when the analyzed cartographic data for the predetermined area around the first location includes preselected conditions.

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29. The computer readable medium of claim 23, wherein analyzing cartographic data further comprises acquiring cartographic data from a global positioning system (GPS).

10 30. The computer readable medium of claim 23, further including providing an alert signal when the analyzed cartographic data between the first location and the potential waypoint includes preselected conditions.

31. The computer readable medium of claim 30, wherein providing the alert signal includes emitting a signal for an audio alert.

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32. The computer readable medium of claim 30, wherein providing the alert signal includes displaying a visual alert.

20 33. The computer readable medium of claim 23, further including receiving preselected conditions selected from the group of land, water depth, rock(s), sandbars, shelves, tide condition, tidal data, wind conditions, weather conditions, ice, above-water obstacles, underwater obstacles, type of water bottom, and prohibited areas.

34. An electronic marine navigation device, comprising:

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a processor;

a location input operatively coupled to the processor, wherein the location input receives a first location and a potential waypoint separate from the first location; and

30 a memory operatively coupled to the processor and the location input, the memory having cartographic data including preselected conditions, wherein the processor operates on a marine route calculation algorithm to analyze a course between the first

location and the potential waypoint in view of preselected conditions of the cartographic data.

35. The electronic marine navigation device of claim 34, wherein the processor  
5 operates on the route calculating algorithm to analyze cartographic data to identify and avoid preselected conditions in the course between the first location and the potential waypoint.
36. The electronic marine navigation device of claim 35, wherein the processor  
10 operates on the route calculating algorithm to re-route the course to avoid the preselected conditions when the processor operating on the marine route calculation algorithm identifies one or more preselected conditions between the first location and the potential waypoint.
- 15 37. The electronic marine navigation device of claim 36, wherein the processor operates on the route calculating algorithm to identify one or more non-user waypoints between the first location and the potential waypoint.
38. The electronic marine navigation device of claim 35, further including a receiver  
20 for a global positioning system (GPS) operatively coupled to the processor, wherein the processor determines the first location on the course based on a signal received from the GPS, and analyzes cartographic data for a predetermined area around the first location for preselected conditions.
- 25 39. The electronic marine navigation device of claim 38, wherein the processor provides an alert signal when the analyzed cartographic data for the predetermined area around the first location includes preselected conditions.
40. The electronic marine navigation device of claim 35, wherein the processor  
30 provides an alert signal when the analyzed cartographic data between the first location and the potential waypoint includes preselected conditions.

41. The electronic marine navigation device of claim 34, wherein the location input receives a user defined graphical filter area, and wherein the processor operates on the marine route calculation algorithm to analyze cartographic data within the defined  
5 graphical filter area for preselected conditions and wherein the processor provides an alert signal when the analyzed cartographic data for the user defined graphical filter area includes preselected conditions.